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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/039,034  | 01/02/2002  | Tony S. Rand         | 42390P12361         | 2349             |
| 8791  | 7590        | 10/28/2004           | EXAMINER            |                  |
| BLAKELY SOKOLOFF TAYLOR & ZAFMAN<br>12400 WILSHIRE BOULEVARD<br>SEVENTH FLOOR<br>LOS ANGELES, CA 90025-1030 |             |                      | LANE, JOHN A        |                  |
|   |             |                      | ART UNIT            | PAPER NUMBER     |
|   |             |                      | 2188                |                  |

DATE MAILED: 10/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/039,034

Applicant(s)

RAND, TONY S.

Examiner

Jack A Lane

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 September 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 9-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. This Office action is responsive to the amendment filed 09/21/2004. Claim 8 has been canceled. Claims 1-7 and 9-30 are presented for examination. Any objections or rejections made in the previous office action not specifically repeated below are withdrawn. The IDS statement submitted 09/21/2004 has not been considered for reasons below.

2. The examiner appreciates the substantial response to the request for 102 or 103 prior art. However, the request also stated “[I]n the event prior art documentation is submitted a discussion of relevant passages, figs. etc. is requested.” The examiner is looking for specific references to 102/103 prior art that identify claim limitations. Since applicant is most knowledgeable of the submitted prior art and the present invention, his/her discussion of the reference(s) with respect to the claims is essential. In exchange, for this information, the fee and certification requirements of 37 CFR section 1.97 have waived. It is the examiner’s intention, through this request, to distinguish the truly patentable features from the more commonly known features.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

4. Claims 1-7 and 9-30 are rejected under 35 U.S.C. § 102(e) as being anticipated by Mackenthun et al. (Pat. No. 6,374,332).

Mackenthun teaches the claimed "input-output interface" as circuitry including interface 370 shown in figure 4. The claimed "first address" corresponds to a read request on line 410. The claimed "address queue" corresponds to circuitry including write buffer logic 434, write request 2 logic 438 and write request 1 logic 454 for storing all pending write addresses. The claimed "second address of a pending transaction" corresponds to all pending write addresses. The claimed "address logic circuitry" corresponds to circuitry for comparing read request addresses to pending write addresses as discussed at col. 15, lines 10-15. The claimed "ownership pre-fetch circuitry" corresponds to circuitry including snoop logic circuitry 432. The claimed "transaction queue" corresponds to circuitry including read request register 412, write request buffer logic 434, write request 2 logic 438 and write request 1 logic 454. The claimed "memory device coupled with said transaction queue" corresponds to circuitry including storage device 1, storage device 2, tag ram 414 and/or data storage devices 419. The claimed "cache" corresponds to first level cache (FLC) 404 and/or second level cache (SLC) 360. The claimed "transaction bypass circuitry" could correspond to circuitry for accessing the

third level cache (TLC) 310 and/or crossbar module (TCM) 220 for accessing main storage 110.

The examiner believes all of the dependent claim features are taught by Mackenthun. That is, the more well known claim features commonly found in the dependent claims are explicitly or inherently found in Mackenthun. For example, claim 4 discusses invalidation. Invalidating data is discussed throughout Mackenthun (see the background of the invention and detailed description) and is generally a well known feature of cache coherency. Many of the claim features, while part of the invention, appear to be well known and their relevance not essential to the main invention found in the independent claim(s). Thus, a detailed discussion of the well known claim feature(s) is not warranted at this time.

In the Remarks filed 09/21/2004 applicant argues:

Mackenthun, however, appears to be silent as to fetching ownership for transactions of **input-output devices** as required by the invention of claims 1-7 and 9-30.

In response, the examiner contends instruction processor 350A (figure 4) corresponds to the claimed "input-output device." Instruction processor accepts data and outputs data. Alternately, it appears the third level cache (TLC) can be considered an input-output device.

Applicant further argues:

Each of claims 7, 20, 22 and 29 are further allowable since they require fetching ownership based upon hub identifications associated with

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transactions. Again, Mackenthun appears to be silent in regard to hub identifications and basing ownership fetching upon such hub identifications.

In response, the claimed "hub identification" corresponds to information included in the request identifying one request from another.

5. Applicant's arguments filed 09/21/2004 have been fully considered but they are not deemed to be persuasive.

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a).

7. A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 C.F.R. § 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

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**Any response to this final action should be mailed to:**

**Box AF**

Under Secretary of Commerce for Intellectual Property and Director of the  
United States Patent and Trademark Office

PO Box 1450

Alexandria, VA 22313-1450

**or faxed to:**

(703) 872-9306, (for Official communications intended for entry)

**Or:**

(703) 872-9306, (for Non-Official or Draft communications, please  
label "Non-Official" or "DRAFT")

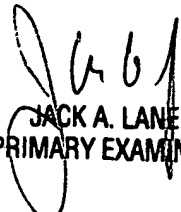
Hand-delivered responses should be brought to Crystal Park II, 2121  
Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Information regarding the status of an application may be obtained from the Patent  
Application Information Retrieval (PAIR) system. Status information for published applications  
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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR  
system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry concerning this communication or earlier communications from the  
examiner should be directed to Jack A. Lane whose telephone number is 571 272-4208. The  
examiner can normally be reached on Mon-Fri from 7:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's  
supervisor, Mano Padmanabhan can be reached on 571 272-4210.

Any inquiry of a general nature or relating to the status of this application or proceeding  
should be directed to the receptionist whose telephone number is 571 272-2100

  
JACK A. LANE  
PRIMARY EXAMINER